

Bottle Sipper Adapter and Method for Using Same

RELATED APPLICATION

This application claims priority under 35 U.S.C. 119(e) to U.S. provisional
5 application Serial Number 60/450,969, filed on February 28, 2003.

Field of the Invention

This invention pertains generally to bottle accessories and more specifically to a
baby bottle sipper adapter.

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Background of the Field

Traditionally, when infants grow into toddlers, they outgrow their bottles with
nipples and begin instead to use cups with straws. This change introduces two major
problems for the child's parents or other caregivers. The first is that they must
15 exchange their inventory of baby bottles for toddler cups – an expensive if not time-
consuming prospect, especially because it often entails the additional hassle of
replacing the baby bottle holders and warmers in strollers and cars for those that fit
toddler cups. The second is that the cups are easy to spill. Even the current “sippy
cups” on the market today often allow for a lot of leakage.

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In addition, these “sippy cups” or other toddler cups frequently have brightly
colored, accordion-shaped straws meant to be attractive to the children but in being so
are solidly colored and impossible to see through. It is therefore difficult for the parent

or other caregiver to readily ascertain if the straw is clean and safe for the toddler to be drinking from.

Summary of the Invention

5 The present invention solves the above-mentioned problems by providing a simple and effective way for baby bottles with nipples to be converted to toddler bottles with straws. The adapter of the preferred embodiment comprises a disk with sealing lip that replaces the nipples of standard-sized baby bottles. (The threaded ring is retained and is still used to hold the disk in place.) A center hole extends through the thickened
10 center portion of the disk, defining a generally straight throughbore or "tunnel" through which a soft, transparent straw fits. A vent hole, offset from the center of the disk, allows for pressure equalization.

 The interference fits of the sealing lip with the bottle mouth (which may or may not be threaded on the inside) and also the center hole with the straw provide for a
15 leakproof container. Annular rings on the sealing lip enhance the leakproof characteristics. Even when the bottle is turned upside down and dropped, no liquid will leak from the seals. A small amount of liquid may leak from the vent hole, but the vent hole is so small that the rate of leakage is measured to be only one small drop per second, giving the parent or other caregiver plenty of time to correct the situation.

20 The preferred material for the adapter and straw is a soft, non-toxic food-grade vinyl that can be washed in a dishwasher, sterilized in a microwave oven, or even boiled for a few minutes on a stovetop for sterilization purposes without melting. Alternatively, any other type of appropriate plastic may be used.

Brief Description of the Drawings

FIGURE 1 is a perspective view of the preferred embodiment of the bottle adapter;

5 FIGURE 2 is a top view of the preferred embodiment; and

FIGURE 3 is a partially cut away side view of the preferred embodiment with straw (not a part of the invention).

Detailed Description of the Preferred Embodiment

10 Figure 1 shows the preferred embodiment of the adapter 10 comprising a disk 12, a sealing lip 18, and a center hole 24. The entire adapter is preferably made of a non-toxic, semi-rigid plastic and can be injection molded. The disk 12 of the adapter is generally circular and planar and is sized to fit the mouth of a standard baby bottle, but can also be sized during manufacture to fit wide-mouth or oversized bottles. The disk
15 12 defines a first side 14, which is intended to be oriented toward the bottle mouth (not shown), and a periphery 16.

The generally cylindrical sealing lip 18 is mounted on the first side and is located proximate the periphery 16 of the disk 12 and extends from the first side 14 of the disk 12 into the interior of the bottle (not shown). The sealing lip 18 has an inside and an
20 outside and defines several annular rings 20 on the outside, such rings further enhancing the seal between the bottle mouth and the sealing lip 18 by interference fit.

Figure 2 shows the center hole 24 within the thickened center portion 22 of the disk 12. Figure 2 also shows how the vent hole 26 is offset from the geometric center of

the disk 12 and is located between the center portion 22 and the lip 18. Whereas the center hole 24 is sized to accommodate a drinking straw 32 (shown in figure 3), the vent hole 26 is quite small and is necessary only to provide enough communication between the bottle's interior and the atmosphere in order to equalize pressure within the bottle as the liquid is sucked out.

The side view of figure 3 shows how the center portion 22 is thickened relative to the rest of the disk 12 and extends from the first side away from the disk. The center hole 24 orients generally orthogonally to the disk 12 and extends through the thickened center portion 22. In the preferred embodiment, the second side 28 of the disk 12 (oriented away from the bottle) defines a generally circular groove 30 surrounding the center hole 24 and within the thickened center portion 22. The groove 30 is spaced and extends radially outward of the center hole 24 and is intended to provide space for a child's lips (not shown) to grip the straw 32.

Alternatively, the relatively thin disk 12 including center hole 24, defining a relatively thin disk-shaped ring 12, and sealing lip 18 can together be said to define a plug 40 for the bottle mouth. The first side 14 of the ring 12 is oriented towards the bottle mouth, and the second side is oriented away therefrom. The inner diameter 42 of the ring 12 is defined not by the center hole 24 but is spaced radially outwardly therefrom, and the outer diameter is defined by the outer periphery 16. The plug 40 thus has a substantially solid cross-section.

The center portion 22 can alternatively be defined by a hollow cone 44 with a base and a distal end and a cylinder 46 attached to the cone 44. The base of the cone 44 is mounted on the first side of the ring 12 at the inner diameter 42, and the distal

end, which is truncated, is oriented away from the ring 12 and extends in the same direction as the sealing lip 18. The short hollow cylinder 46 is mounted to the distal end of the cone and extends back toward the ring 12.

The straw 32 to be used with the adapter 10 is made from soft, thick-walled, non-toxic plastic and interference fits into the center hole 24 (or the cylinder 46) so as to provide a leakproof seal. The plastic material chosen for the straw 32 allows that the straw 32 can be chewed, bitten, or frozen without shattering, so that there are no small pieces that could cause a choking or intestinal hazard to the child. The straw 32 of the preferred embodiment is intended to be clear; however, a certain amount of color can be introduced at the manufacturing level without inhibiting the see-through characteristics of the plastic.